APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,189	11/13/2001	Srinivas Gutta	US010576	3037

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EXAMINER
JARRETT, SCOTT L

ART UNIT	PAPER NUMBER
3623	

MAIL DATE	DELIVERY MODE
07/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

<table>
<tr><td rowspan="2">Office Action Summary</td><td colspan="2">Application No.</td><td colspan="2">Applicant(s)</td></tr>
<tr><td colspan="2">10/014,189</td><td colspan="2">GUTTA ET AL.</td></tr>
<tr><td></td><td colspan="2">Examiner</td><td>Art Unit</td><td></td></tr>
<tr><td></td><td colspan="2">Scott L. Jarrett</td><td>3623</td><td></td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _04 June 2007_.

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-23_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-23_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This Non-Final Office Action is in response to Applicant's submission filed June

4, 2007. Applicant's submission amended claims 1-23. Currently Claims 1-23 are

pending.

Response to Amendment

2.   The 35 U.S.C. 101 rejection of claims 16-23 is withdrawn in response to

Applicant's amendments to claims 16-23.

The 35 U.S.C. 101 rejection as claiming the same invention as claims 1-15 over

co-pending Application No. 10/014,180 is withdrawn in response to applicant's

arguments.

The 35 U.S.C. 101 rejection as claiming the same invention as claims 1-23 over

co-pending Application No. 10/014,192 is withdrawn in response to applicant's

arguments.

The 35 U.S.C. 101 rejection as claiming the same invention as claims 1-22 over

co-pending Application No. 10/183,762 is withdrawn in response to applicant's

arguments.

The Objection to the Title is withdrawn in response to Applicant's amendment to

the Title.

Response to Arguments

3.   Applicant's arguments, see Last Two Paragraphs, Page 11, filed June 4, 2007, with respect to the rejection(s) of claim(s) 1, 10, 16, 22 and 23 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made under 35 U.S.C. 103(a) as being unpatentable over Sarwar, Sparsity, Scalability, and Distribution in Recommender Systems (2001) in view of Datta et al., Symbolic Nearest Mean Classifiers (AAAI 1997).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "third party file history", Paragraphs 1-2, Page 9) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that there is no suggestion to combine the references (Last Paragraph, Page 10), the examiner respectfully disagrees. In this case, both the Datta et al. (Piew Datta and Dennis Kibler, presented at AAI 1997) and Data/KillberDatta (Piew Datta and Dennis Kibler, presented at ICML 1997) teach the *same* method for classifying (partitioning, clustering) symbolic data using the Symbolic Nearest Mean (SNM) and Symbolic Nearest Mean with Clustering (SNMC, a

modification to the SNM technique) techniques wherein each article/presentation

provides features and/or characteristics inherent in the SNM and SNMC developed by

Datta and Kibler. Further Datta/Kibler teaches that learning more than one prototype

per class would allow SNMC to represent distant and disjoint groups of examples within

classes (Datta/Kibler: Last Paragraph, Page 6) wherein SNMC, using well known k-

means clustering for *unsupervised learning*, increasing classification (partitioning)

accuracy (Datta et al.: Abstract).

Further it is noted KSR forecloses the argument that a specific teaching,

suggestion or motivation is required to support a finding of obviousness. See the recent

Board decision EX parte Smith, --USPQ2d--, slip op. at 20, (Db. Pat. App. & Interf.

June, 25, 2007)(citing KSR, 82 USPQ2d at 1396).

It is noted that the applicant did not challenge the officially noticed facts cited in

the previous office action(s) therefore those statement(s) as presented are herein after

prior art. Specifically it has been established that it was old and well known in the art at

the time of the invention:

- to classify/identify items such as television programs, content and/or products

using of well-known pattern-recognition methods including but not limited to: value

difference measures/metrics, nearest-neighbor, classifiers, similarity/instance-based

methods, lazy learning, or the like; wherein these methods/systems are utilized for

things such as recommending items to users; and

- to automate manual methods.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sarwar, Badrul Munir, Sparsity, Scalability, and Distribution in Recommender Systems

(2001) in view of Datta et al., Symbolic Nearest Mean Classifiers (AAAI 1997).

Regarding Claims 1, 10, 16 and 22-23 Sarwar teaches a system and method for

providing a recommendation to a user comprising (Figures 3.5, 4.2, 5.10):

- partitioning a plurality of items into clusters of similar items ("the

recommendation engine computes a neighborhood of other users with similar opinions;

this neighborhood is usually based on a proximity measure such as pairwise correlation.

To evaluate other items for this user, the system forms a normalized and weighted

average of the opinions of the user's neighbors.", Paragraph 1, Page 17; Last

Paragraph, Page 19; Section 2.3.3, Pages 20-21; Last Two Paragraphs, Page 24;

Section 3.5.2, Pages 46-47; Section 5.2.2, Pages 101-102; Figures 3.5, 5.3, 5.10), said

plurality of items corresponding to a selection (viewing, purchase, opinion, rating,

ranking, etc.; "artificial ratings") history by at least one third party (other users, editors,

moderators, "filterbots"; Paragraphs 1-2, page 4; Last Bullet, Page 5; Paragraph 1,

Bullet 1, Number 2, Page 6; Last Paragraph, Page 7; Paragraph 3, Page 8; Last

Paragraph, Page 9; Section 4.3.2, Pages 78-79; Paragraphs 2, 4-5, Page 54;

Paragraphs 1-3, page 55; Page 56; Figure 4.2), said partitioning step comprising

identifying one or more mean items for a plurality of items (center, centroid; Section

3.5.2, Pages 46-47; Last Paragraph, Page 46; Last 2 Bullets, Page 47; Pages 8-82;

Figures 3.5, 5.3, 4.14), J, each of said items having at least one symbolic (categorical,

non-metric, non-numeric, Boolean, binary, etc.) attribute, each of said symbolic

attributes having at least one possible value; and

- outputting a recommendation to the user based at least in part on the clusters

(Abstract; Bullet 1, Number 2, Page 6; Section 2.2, Pages 18-19; Last Paragraph, Page

45; Figures 4.2, 5.10).

Sarwar further teaches that the recommendation system/method further

comprising memory for storing computer readable code, a processor operatively

coupled to said memory wherein the processor is configured to perform the above

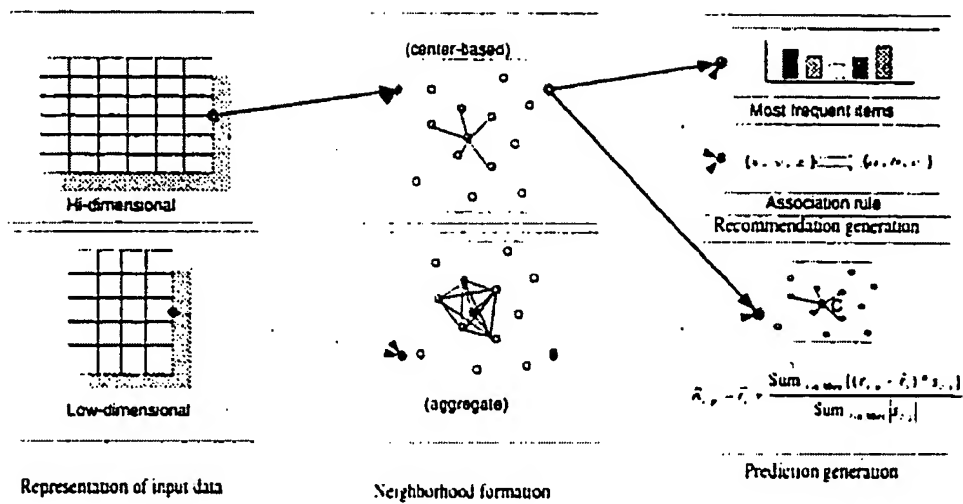method steps (Figures 4.2; 6.2-6.4).

Figure 3.5: Three main parts of a Recommender System. The implementation paths of benchmark systems are marked with solid lines.
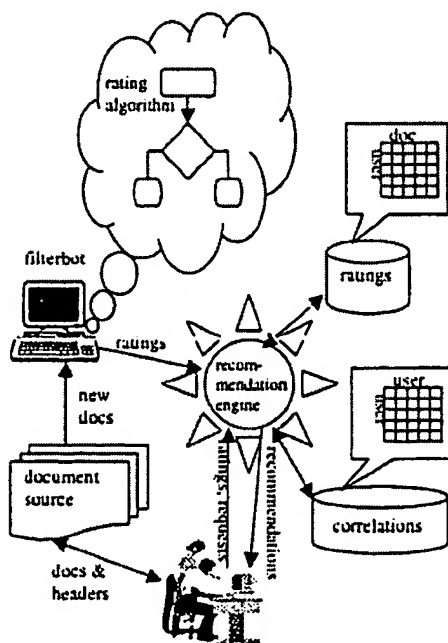

Figure 4.2: Incorporation of filterbots into the collaborative filtering framework

► Active user

Complete dataset   Partitioned dataset after   User cluster is used as
                        application of the   the neighborhood
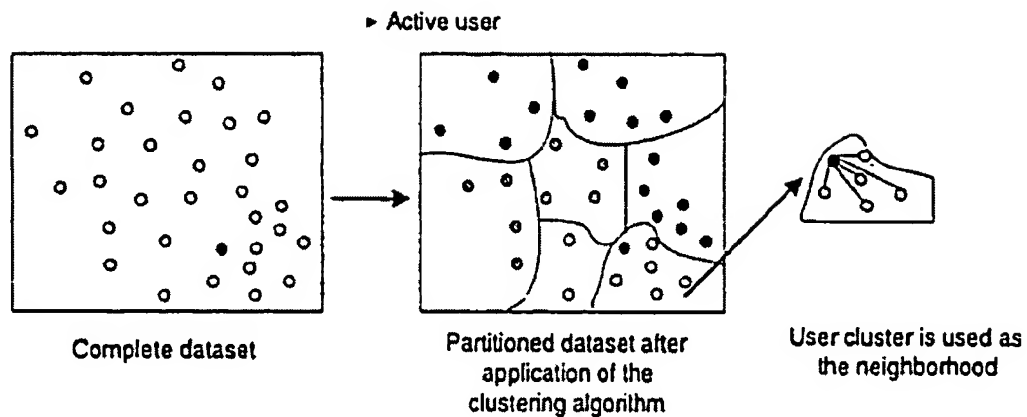   clustering algorithm

Figure 5.10: Neighborhood formation from clustered partitions

While Sarwar teaches the utilization of any of a plurality of well known clustering

methods/techniques to partition the data/form the clusters and utilizing known

collaborative filtering techniques ("Most CF systems employ nearest neighbor based

algorithm that makes product recommendations by first selection a set of nearest

neighbors and then computing a weighted sum of their preferences on that product.",

Paragraph 2, Page 5; Section 2.2, Page 16) to solve classification problem (i.e.

separating these items into smaller classes, and giving criteria for determining whether

a particular item in the domain is in a particular class or not; Last Paragraph, Page 24)

Sarwar does not expressly teach the phrase "symbolic attribute" nor subsequently

computing a variance, for each mean identified, is computed of said plurality of items J,

for each of said possible symbolic values xu, for each of said symbolic attributes; and

for each of said symbolic attributes at lest one symbolic value xu that minimizes said

variances as the mean symbolic value selected as claimed.

Datta et al. teach a known method for solving classification problems wherein the method computes a variance for each mean identified, wherein the variance is computed for said plurality of items J, for each of said possible symbolic values xu, for each of said symbolic attributes; and for each of said symbolic attributes at lest one symbolic value xu that minimizes said variances as the mean symbolic value selected ("Distances between Symbolic Attribute Values", Columns 2-3, Page 2; "The Mean of Symbolic Attributes", Column 2, Page 2) in an analogous art of item classification for the purpose of overcoming known problems associated with classifying symbolic attributes (Column 2, Paragraph 1, Page 1).

Datta et al. more generally teaches a known method for solving classification problems using a minimal-distance classifier, the method comprising:

- partitioning (identifying, segmenting, characterizing, classifying, categorizing, etc.) one or more mean items for a plurality of items, J, each of the items having at least one symbolic (categorical, non-metric, non-numeric, Boolean, binary, etc.) attribute (feature, characteristic, etc.), each symbolic attribute having at least one possible value ();

- computing (determining, calculating, etc.) a variance (distance, difference, etc.) of the plurality of items, J, for each of the possible symbolic values, x_u, for each of the symbolic attributes ("Distances between Symbolic Attribute Values", Columns 2-3, Page 2); and

- selecting for each of the symbolic attributes (item features/characteristics) at least one symbolic value, x_u, that minimizes the variance as the mean symbolic value ("The Mean of Symbolic Attributes", Column 2, Page 2);

Datta et al. teach a system and method for identifying one or more items wherein the plurality of items are a cluster (grouping, collection, set, etc.) of similar items ("K-Means Clustering", Columns 1-2, Page 4; Figures 1a, 1b).

It would have been obvious to one skilled in the art at the time of the invention that the system and method for providing a recommendation to a user as taught by Sarwar would have utilized any of a plurality of clustering algorithms and/or classification algorithms including but not limited to the Symbolic Nearest Mean and/or Symbolic Nearest Mean with Clustering in order to provide recommendations to users based on the symbolic mean of items in view of the teachings of Datta et al.; the resultant system/method enabling the system/method to provide recommendations by via the classification approach of Sarwar (Last Paragraph, Page 2) to classify (partition) symbolic attributes (Datta et al.: Column 2, Paragraph 1, Page 1).

Further it is noted that all the claimed elements of the invention were known in the prior art and to one skilled in the art could have combined the elements as claimed by known methods, specifically utilizing Datta et al.'s classification method to solve the classification problem presented in Sarwar, with no change in the respective functions of the two methods, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention (e.g. substituting any of a plurality

of known classification methods, techniques, algorithms for the ones used by Sarwar

would have yielded predictable results by solving the classification problem).

Regarding Claims 2, 11 and 17 Sarwar does not expressly teach that the mean

symbolic value for each symbolic attribute comprises a mean of the plurality of items as

claimed.

Datta et al. teach a method for identifying one or more mean items wherein the

mean symbolic value for each symbolic attribute comprises a mean of the plurality of

items ("The Mean of Symbolic Attributes", Column 2, Page 2).

Regarding Claims 3, 14 and 18 Sarwar does not expressly teach that the

symbolic attributes comprise said mean of said plurality of items as claimed.

Datta et al. teach a method for identifying one or more mean items wherein the

symbolic attributes comprises one or more hypothetical items (tentative, potential,

probable, projected, sample, test, example, training, etc.; Column 2, Paragraph 1, Page

2; "Learning Multiple Prototypes", Column 1, Page 4).

Regarding Claims 4, 12 and 19 Sarwar does not expressly teach assigning a

label to said plurality of items using at least one symbolic value from the at least one

mean of the plurality of items as claimed.

Datta et al. teach a method for identifying one or more items further comprising assigning a label (class, descriptor, text, name, tag, etc.) to the plurality of items using at least one symbolic value from the at least one of the item means ("Learning Multiple Prototypes", Column 1, Page 4; "K-Means Clustering", Columns 1-2, Page 4).

Regarding Claims 5, 13 and 20 Sarwar teaches a system and method for identifying one or more items wherein the plurality of items are a cluster (grouping, collection, set, etc.) of similar items (Paragraph 2, Page 5; Section 2.2, Page 16; Paragraph 1, Page 17; Last Paragraph, Page 19; Section 2.3.3, Pages 20-21; Last Two Paragraphs, Page 24; Section 3.5.2, Pages 46-47; Section 5.2.2, Pages 101-102; Figures 3.5, 5.3, 5.10).

Regarding Claim 6-8 Sarwar teaches a system and method for providing a recommendation to a user wherein the items are programs, content and/or products (television, newsgroups, products, messages, documents, etc.; Section 2.2, Page 18-19; Last Paragraph, Page 45; Pages 57-59; Last Three Paragraphs, Page 156; Figure 6.1).

It is noted that the specific nature of the items (content, products, etc.) as recited in claims 7-8 merely represent the non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural

elements. The recited method steps would be performed the same regardless of the specific nature of the items being identified/classified. Further, the structural elements remain the same regardless of the specific nature of the items being identified/classified. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.*

Regarding Claims 9, 15 and 21 Sarwar does not expressly teach computing the variance using the recited equation.

Datta et al. teach a system and method for partitioning a plurality of items by identifying one or more items wherein the variance (distance, difference, similarity measure, etc.) is computed as follows:

$$Var(J) = \sum_{i \in J} \left(xi - xu \right)^2$$

where J is a cluster of items from the same class, x_i is a symbolic feature value from item i and x_u is an attribute value from one of the items in J such that it minimizes *Var(J)* ("The Mean of Symbolic Attributes", Column 2, Page 2).

essarily be equal. In addition, we have the constraint that the mean of a symbolic attribute must be one of its possible values. For numeric data the mean is the value that minimizes the variance. We generalize this notion to deal with symbolic attributes as well. The class prototypes learned by the minimum-distance classifier can be considered as clusters of examples with the *prototype* described by the mean of the examples in the cluster.

We define the mean of a cluster by finding the value of x_μ that minimizes the variance,

$$Var(J) = \sum_{i \in J}(x_i - x_\mu)^2,$$

where J is a cluster of examples (for minimum-distance classifier, the cluster is the group of examples of the same class) and x_i is a symbolic value for example i. x_μ will be the best constant approximation for the distribution of symbolic values in J in the same way that the mean of real-value attributes is the best constant approximation for the values. Computationally, each symbolic value will be tried as x_μ and the symbolic value that minimizes the variance will become the mean for the symbolic attribute in cluster J.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Atcheson et al., U.S. Patent No. 5,583,763, teach a system and method for providing a recommendation to a user wherein the recommendation is based on a selection history by at least one third party (e.g. other users).

- Lawler, U.S. Patent No. 5,758,259, teach a system and method for providing a recommendation to a user wherein the recommendation is based on the user's television viewing history (selections).

- Robinson, U.S. Patent No. 5,790,426, teach a system and method for providing a user recommendation wherein the system utilizes well known collaborative filtering techniques to recommend items to users based on a selection history of at least one third party (e.g. other user's item ratings).

- Cragun et al., U.S. Patent No. 5,973,683, teach a system and method for providing a recommendation to a user wherein the recommendations (e.g. television program recommendations) are based on a selection history of at least one third party (e.g. broadcaster's ratings).

- Barrett et al., U.S. Patent No. 6,005,597, teach a system and method for providing a recommendation to a user wherein the recommendation is based on at least one third party's selection history (viewing history, "...together with data about viewing preferences of other viewers having similar characteristics to the viewer, the invention

ranks currently available programs, and presents them in order from the best to worst

match."; "viewer's actual program choices").

- Miller et al., U.S. Patent No. 6,108,493, teach a system and method for

providing recommendations to a user using well known collaborative filtering techniques

wherein the recommendation is based on a selection history by at least one third party

(other user's implicit, explicit item ratings/viewing history, etc.).

- Shah-Nazaroff et al., U.S. Patent No. 6,317,881, teach a system and method

for providing recommendations to a user wherein the recommendations, for television

programs, are based at least on the selection history, stored in a selection history file

("third party selection file"), of at least one third party (e.g. previous television viewing

history of other users).

- Lazarus et al., U.S. Patent No. 6,430,539, teach a system and method for

predicting future user behavior (predictive modeling) based on the partitioning of a

plurality of items (products, merchants, consumers) into clusters of similar items,

wherein at least a portion of the items correspond to a selection (purchase) history by at

least one third party (other users).

- Pyo, U.S. Patent NO. 6,636,836, teach a system and method for

recommending items to a user wherein the system/method utilizes multiple

recommendation engines.

- Schaffer et al., U.S. Patent No. 6,704,931, teach a system and method for

recommending an item to a user comprising partitioning a plurality of similar items, the

items corresponding to a selection history by at least one third party.

- Gutta et al., U.S. Patent No. 6,727914, teach a system and method for
providing a recommendation for a user based on the user's viewing history.

- Lee et al., U.S. Patent No. 6,766,525, teach a system and method for providing
a recommendation to a user wherein the recommendation is based on a selection
history by at least one third party (agent viewing history).

- Ellis et al., U.S. Patent No. 6,898,762, teach a system and method for
providing a recommendation (television program) to a user based on a users
profile/preferences and viewing history.

- Schaffer et al., U.S. Patent Publication No. 2002/0116,701, teach a system and
method for providing a recommendation to a user wherein the recommendation is
based on viewing (selection) history of at least one third party (other users). Schaffer et
al. further teach that the method assists in initializing the user's profile by utilizing
stereotype user profiles generated from other user's viewing history and other
information.

- Ali, U.S. Patent Publication No. 2002/0199,194, teach a system and method for
providing a recommendation to a user wherein the recommendation is based at least on
a selection history of a third party. Ali further teaches the well-known utilization of
collaboration filtering systems, in recommendation systems, to provide
recommendations to users based on the selection history of other users (third parties)
wherein collaborative filtering utilizes similarity measures.

- Konniklijke Philips Electronics, WO 01/60063 A2 (2001), teach a system and method for recommending items to users wherein the recommendations are based at least in part on the user's viewing history.

- Oard et al., Implicit Feedback for Recommender Systems (1998), teaches that "Recommender systems exploit ratings provided by an entire user population to reshape an information space for the benefit of one or more individuals." Oard et al. further teaches a system/method for providing a recommendation to a user based at least in part on a selection history by at least one third party.

- Billsus et al., Learning Collaborative Information Filters (1998), teach that "Predicting items a user would like on the basis of other users' ratings for these items has become a well-established strategy adopted by many recommendation services on the Internet." Billsus et al. further teaches the utilization of well-known collaborative filtering techniques in recommendation systems wherein such systems provide a recommendation to a user based at least in part on a selection history by at least one third party.

- Good et al., Combining Collaborative Filtering with Personal Agents for Better Recommendations (1999), teach a system and method for providing a recommendation to a user.

- TV-Online (1999), teach a system and method for providing a recommendation to a user wherein "Users can choose to which extent they want to make use of this recommendation function, and above all, *from whom* they want to get their recommendations. They have the choice between the program guide's editors, as

usual in print media, and the community of all TV-Online users. *TV-Online generates the community recommendation by statistically analyzing other user's viewing schedules* to find common highlights." (emphasis added)

- Demiriz et al., Semi-Supervised Clustering Using Genetic Algorithms (1999), teach a semi-supervised clustering algorithm for solving *classification problems* the cluster can be used to predict the class of future points (i.e. predict the labels of unlabeled points based on all available labeled and unlabeled data). Demiriz et al. further teach utilizing the well-known K-means clustering approach/technique to choose cluster centers that some measure of cluster quality.

- Gokhale, Improvements to Collaborative Filtering Algorithms (1999), teaches the well-known utilization of collaborative filtering techniques to recommend items to users based at least in part on a selection history by other users/third-parties. More specifically Gokhale teaches that the system/method utilizes a combination of content-based and collaborative filtering techniques to make recommendations to users.

- Smyth et al., Personalized Electronic Program Guides for Digital TV (2001), teach a system and method for providing television program recommendations to a user based on a user's profile (preferences), collaborative and content-based filtering wherein the system/method determines a measure of similarity (e.g. graded difference metric) between feature-based representation of the user's profile, television program information and a selection history by at least one third party (k-nearest profiles of other users).

- Baudisch, Dynamic Information Filtering (2001), teaches a system and method

for recommending items to users comprising partitioning a plurality of items into clusters

of similar items, said plurality of items corresponding to at least a selection history by at

least one third party, the items having one or more symbolic attributes and providing a

recommendation to a user based at least in part on the clusters (Section 1.1.2.2, Pages

12-15; Section 2.2.4, Pages 31-32; Section 5.3, Pages 123-127; Section 5.4.2.2, Pages

131-132; Figures 2, 7, 54, 60). Baudisch teaches that the TV Scout system/method

utilizes a combination of content-based and collaborative filtering (Chapter 5, Pages

115-142). Baudich further teaches the know utilization of stereotype-based

recommendation systems wherein user stereotypes are utilized to initialize user profiles

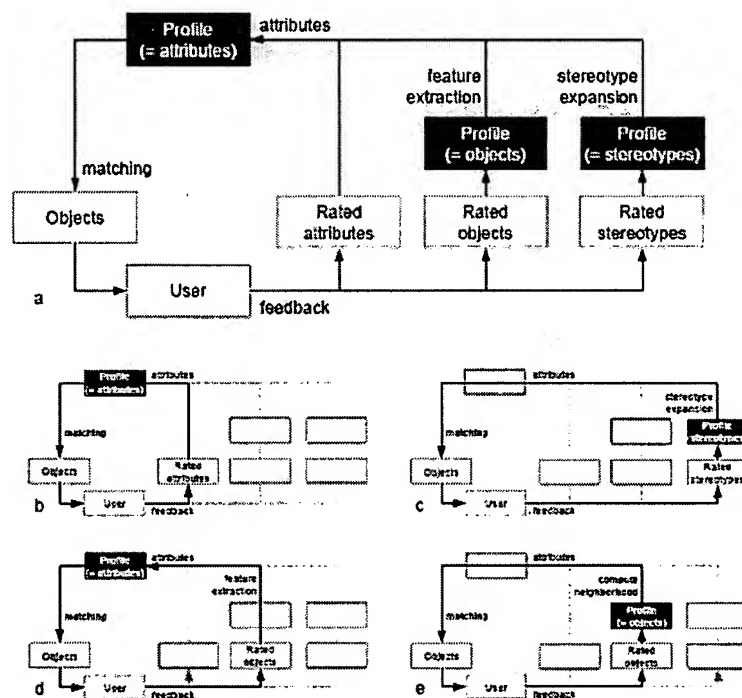(Last Paragraph, Page 23; Paragraphs 1-3, Page 24; Section 2.2.4, Page 31).

Figure 7: The profile manipulation cycle (a) of IF systems gathering input about attributes (b),
stereotypes (c), object ratings (d), and of automated collaborative filtering systems (e).
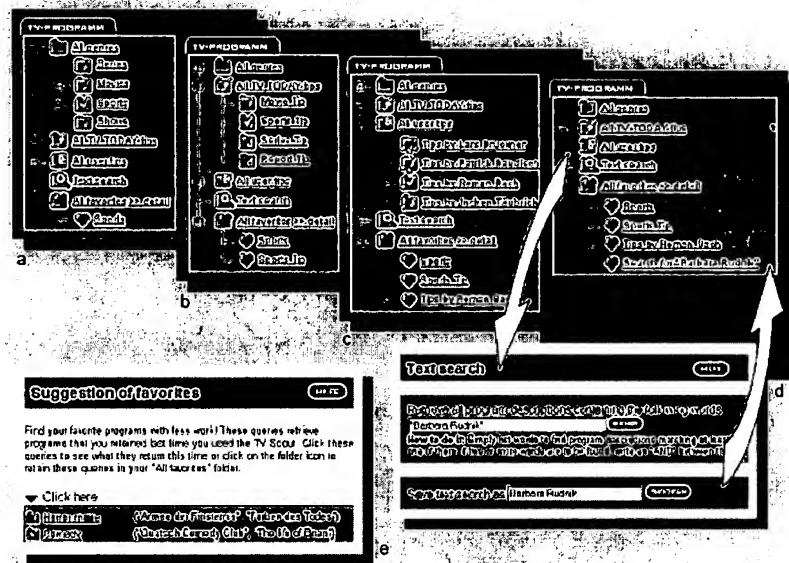
Figure 54: By clicking a hook-shaped toggle switch (a-c) or clicking a *save* button (d), queries can be retained in the user's QSA profile labeled "All favorites". Queries can also be suggested for retention (e).
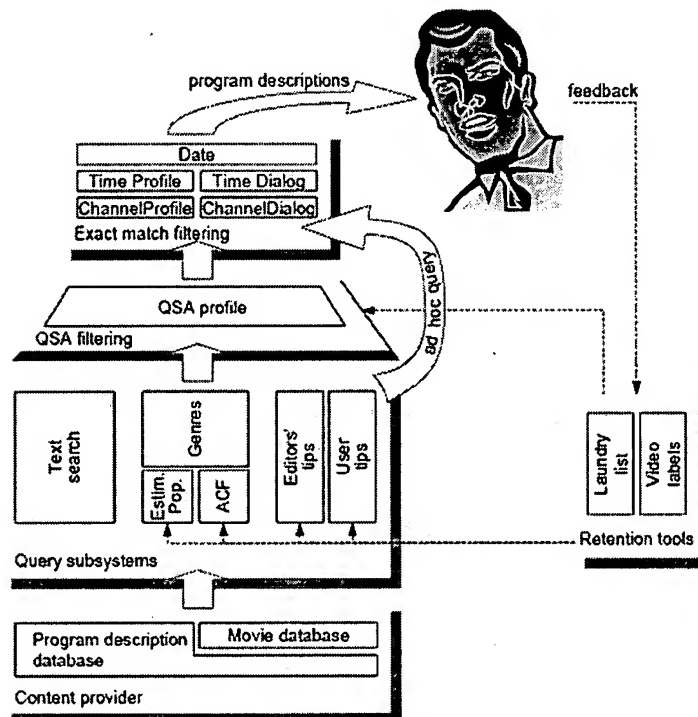

Figure 60: Overview: flow of program descriptions and ratings (block arrows) and generation of user feedback (dashed arrows).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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